

management software, it cannot be restricted to a single program. While it could be just a single software program that generates the forms, it should not be confined to a single program. Thus, I recommend that the following construction be adopted for "forms generator" and "forms engine program": "a software program, which, with or without additional software programs, creates or generates multiple forms corresponding to multiple institutions."

7. "Form Description Information," "Application Description Information," and "Application Information File"

While defendant proposes different constructions for these three terms, I consider them together because they are related. "Form description information" appears in claim 21 of the 278 patent as follows: "first data storage in communication with the server computer

[*52] and including form description information specifying the content and appearance of each customized form[.]" 24:59-62. The phrase appears again in that claim: "a forms engine program operating on the server computer for generating a form from the form description information in response to a request for the form transmitted . . ." 25:3-5.

"Application description information" appears in dependent claim 2 of the 278 patent: "the method of claim 1 in which creating a first application form customized in accordance with the preferences of the first institution includes generating a first application in accordance with stored application description information . . ." 23:16-20.

Defendant proposes parallel constructions for these two terms. First, for the "form description information" phrase, defendant proposes the following construction: "information describing a form that is sufficient to enable the forms engine program to generate the described form." For "application description information," defendant proposes: "information describing an application form that is sufficient to enable the forms engine program to generate the described application form." Defendant notes that the

[*53] 278 patent specification uses "form information" and "application information" interchangeably to describe the information stored in the application data file. 5:61-63; 6:19-22. Accordingly, defendant contends that the two phrases should be similarly construed.

Plaintiff does not disagree that "form description information" and "application description information" should receive parallel constructions. But, plaintiff contends that there is no reason not to adopt the construction I gave "form description information" in the

ApplyYourself case and then use that as the basis for the parallel construction of "application description information."

The construction I rendered in the ApplyYourself case for "form description information" was "the information used to customize a form." July 7, 2003 Op. at pp. 38-43. My analysis of the meaning of the term rendered in the ApplyYourself case is equally applicable here. The construction adopted there is consistent with the ordinary meanings of the terms in the phrase. Additionally, I am reluctant to adopt a construction that incorporates another construed phrase as defendant proposes here. Defendant's proposed construction uses

[*54] "forms engine program." Thus, the jury will have to cross-reference the construction for "forms engine program" to understand the meaning of "form description information." Because the construction from the ApplyYourself case sufficiently explains the phrase while avoiding this cross-referencing problem, I recommend that that construction be adopted in this case for the term "form description information." I also recommend that "application description information" be construed to mean "the information used to customize an application."

The phrase "application information file" appears in the following step of claim 32 of the 278 patent: "providing at least two application information files, each describing a customized application for an institution[.]" 25:64-65. It also appears again in a following step: "generating a customized application in response to a request over a computer network from an applicant, the application form and content being specified by one of the at least two application information files, . . ." 26:8-11.

In the ApplyYourself case, I construed "application information file" as "a file that stores information that includes a description of a distinct

[*55] application form. The file describes the form itself, not the user data (e.g. student specific information) that may ultimately be entered into a particular copy of the form." Dec. 19, 2002 Op. at p. 30.

Defendant concedes that the previous construction is generally correct, but defendant argues that more specificity is required. Without citing to any part of the patent specification, defendant contends that both the specification and the claim language suggest that "application information file" should be construed to mean "a uniquely named text or template file that contains the instructions and pattern descriptions that enables the forms engine program to create a distinct application form that is customized in its appearance and content."

Plaintiff contends that defendant's proposal introduces new phrases without any support, such as "pattern description," that are confusing and undefined. As such, and because defendant concedes that it does not disagree with our prior construction, plaintiff argues that I should adopt my prior construction.

I agree with plaintiff. Defendant's proposal unnecessarily adds new, undefined phrases which will only lead to increased complexity in

[*56] the claims construction process.

Furthermore, with a separate definition of "file" as rendered above, ("an electronically stored collection of information that has a unique name"), there is no need to construe "application information file" as something "uniquely named." I do agree with defendant that the addition of the words "text or template" to modify "file" is warranted by the claim language. In the discussion of the construction of "application information file" in the December 2002 Claims Construction Opinion on the 278 Patent, I noted that the use of the word "file" in that claim phrase was a "text, or perhaps template, file that stores the directions to produce the customized form for each institution." Dec. 19, 2002 Op. at p. 31. While this reference to "text, or perhaps template," did not make it into the final claim construction of the phrase, I conclude that the term "application information file" should be construed with that modification of "file." Thus, I recommend that the following construction of "application information file" be adopted: "A text or template file that stores information that includes a description of a distinct application form. The file describes

[*57] the form itself, not user data (e.g. student specific information) that may ultimately be entered into a particular copy of the form."

B. User Information Database Function

This function is initially seen in the following language from the three independent claims of the 278 patent:

storing the posted applicant information in a database having a database field structure defined by multiple database fields, the database including multiple records, each record capable of storing information corresponding to each of the database fields[.]

22:49-52; 24:55-67; 26:4-7.

The following claim language from claim 1 of the 278 patent also encompasses the "user information

database function":

automatically storing the applicant information entered into the second form data fields into the database by adding new records to the database, the automatic storing of the applicant information not altering the database field structure, thereby allowing new form data fields corresponding to applicant information not previously requested to be added to an application form without requiring alterations of existing application forms or of programs that access the database, whereby

[*58] customized applications to different institutions share data through common, extensible data storage.

23:5-15. The other independent claims express a similar function. 25:16-23; 26:25-33.

Defendant also points to dependent claim 11 and this particular language as being relevant to the user information database function:

The method of claim 1 in which storing the posted applicant information in a database having a database field structure defined by multiple database fields includes parsing the applicant information within a [sic] into data elements, the data elements being separately stored and identified, thereby allowing the data elements to be separately retrieved and rearranged in subsequent applications.

23:66-67 - 24:1-5.

From these claim limitations, defendant proposes constructions for: (1) database; (2) database field structure; (3) defined by multiple database fields; (4) multiple records; (5) record; (6) data element; (7) by adding new records to the database without altering the database field structure; and (8) extensible.

The claim language at issue here, unlike other words or terms in the claims, is not used in its ordinary, customary sense,

[*59] and is used in a technical sense. Thus, construction is required.

In regard to this function, one of the fundamental issues is whether the database storage is exclusively in a format, or structure, that is based on the concept of tables as one ordinarily thinks of a table for organizing information, a combination of rows and columns. While a table-based structure appears to be what is expressed in the preferred embodiment, see 3:48 (noting that the

preferred embodiment uses "relational databases" (discussed below in section entitled "Miscellaneous Terms"); 9:13-14 (noting use of "transactions database table" and "transactions operations table" in preferred embodiment); 9:28 (section describing "Attribute Table"); 9:67 (section describing "User Attribute Sent Table"), the specification also expressly states that the "invention is not limited . . . to . . . the use of any particular . . . database," 3:49-51, and it further discloses the use of Extensible Markup Language (XML) as an alternative method of storing user information. 21:13-67 - 22:1-19.

Accordingly, while the following discussion examines the claim terms at issue in this "user information database" function in the context

[*60] of the preferred embodiment, I recognize that the claim terms are not limited to that embodiment both by the express statements in the written description and under general precepts of claim construction law. CVI/Beta Ventures, 112 F.3d at 1158 ("the claims of a patent are not limited by preferred embodiments.").

1. "Database"

Defendant proposes the following construction: "an organized collection of information that can be searched, retrieved, changed, and sorted using a collection of programs known as a database management system." Plaintiff proposes: "an organized collection of information that can be searched, retrieved, changed, and sorted using software." The point of contention is in whether the database uses "a collection of programs known as a database management system" or uses "software."

Defendant's proposal is the definition of "database" given in the 1995 edition of the Dictionary of Computer Words 61 (1995 rev. ed.) (relevant page found in Exh. B to Def't's Op. Cl. Constr. Brief). Defendant contends that the 278 patent specification does not indicate that the term "database" is used in any way other than this ordinary technical meaning.

Plaintiff

[*61] argues against defendant's "database management system" limitation as unduly narrow. Plaintiff notes that the specification states that information can be stored in "tables" or in "XML files." 9:29-10:40, 21:14-19. Plaintiff further notes that while a database management system is often associated with accessing data stored in "tables," persons in the field and skilled in the art might not refer to the software that works with XML files as a "database management system." Accordingly, plaintiff argues, the claim language should not be limited to a "database management system."

I agree with plaintiff. From the written specification, the parties' briefing, the expert declarations, and the arguments presented in the case, it appears that one skilled in the art of database systems would initially understand the ordinary, customary use of the term "database" to refer to tables. But, the written specification, the briefing, the expert declarations, and the arguments presented in the case also show that XML is at least one other "format" available in which to store data. To avoid limiting the term "database" to the concept of storage of data in tables, I recommend rejecting defendant's proposed

[*62] construction with its inclusion of "database management system" which one of ordinary skill in the art could use to infer that the database at issue in the patent is restricted to one using tables. Thus, I recommend that "database" be construed as "an organized collection of information that can be searched, retrieved, changed, and sorted using software."

2. "Database Field Structure"

Defendant proposes this construction: "the structure of database fields, i.e. relations and the attributes or fields that define the columns the relations contain." Plaintiff proposes: "the grouping and organization of database fields."

To understand defendant's proposed construction, it is necessary to define some of the terms defendant uses. According to one authority, a "relation" is "a two-dimensional table in which data are arranged." Hector Garcia-Molina, et al., Database Systems -- The Complete Book 61-62 (2002) (relevant page found in Exh. B to Def't's Op. Brief). An "attribute" is a name describing the meaning of an entry in a column of a relation. Id. at p. 62 (showing diagram of two-dimensional table with headings for four columns and noting that the "attribute describes the meaning

[*63] of entries in the column below."). In the context of the patents in suit, an attribute in a two-dimensional table could be something like "first name," or "street address" or "user identification."

A "field" is the portion of the database that stores a data value for a particular attribute. See Plt's Initial Cl. Constr. Brief at pp. 9-10. Another definition for field is "a space reserved for a specified piece of information in a data record." Bryan Pfaffenberger, Ph.D., Que's Computer & Internet Dictionary 133 (6th ed. 1995) (relevant page found in Exh. B. to Def't's Op. Cl. Constr. Brief). In this sense, a "field" refers to the location in the database in which a particular type of data is stored. See Plt's Exh. 1 to Sept. 9, 2004 Oral Arg. at p. 4 (Claim Construction Statement showing construction of "field" as "a location in a record in which a particular type of data is stored. For example, EMPLOYEE-RECORD

might contain fields to store Last-Name, First-Name, etc.").

With these definitions, defendant's proposed construction can be read as: "the structure of database fields, i.e., tables and the attributes or spaces that define the columns the tables contain." One

[*64] of the problems with defendant's proposed construction is its reliance on technical terms to define the claim phrase "database field structure." Defendant's proposal requires several additional definitions or interpretations to be understood, unnecessarily complicating the claim construction.

The more fundamental problem, however, is that once the technical terms used by defendant are defined, it is obvious that defendant's proposed construction limits the database field structure to a structure based on tables. As explained above, the patent's preferred embodiment of "database" may be tables, but it is error to so limit it.

The meaning of "database field structure" is not apparent from the claims themselves. To the extent the claims themselves give some definition to the term, it is limited to the modifying phrase immediately following "database field structure" which reads "defined by multiple database fields[.]" Thus, the claims disclose only that the "database field structure," whatever it is, must have "multiple database fields." Defendant represents that there is no mention in any part of the specification of "database field structure." Plaintiff does not dispute this representation

[*65] and my independent review of the specification has revealed no reference to the exact term. The only relevant specification reference I found was to the following similar phrase: "As described in more detail below, information about the applicants is maintained as a set of attributes, each attribute corresponding to database fields." 7:29-31.

Given the lack of information in the claims themselves and in the specification, defendant relies on testimony from its expert Jeffrey Ullman, Ph.D., who explains that although "database field structure" is not a term that would be readily recognized by one of ordinary skill in the art of database systems, such a person would understand the phrase to refer to a "specification of the fields used in some single relation or file of records." Aug. 15, 2004 Ullman Declr. at P 7. By referring to "relation," Ullman's explanation, which provides the foundation for defendant's proposed construction, inappropriately restricts the definition of "database field structure" to tables.

Consequently, I recommend that the phrase "database field structure" be interpreted to mean "the grouping and organization of database fields" with the

understanding that "database

[*66] field" refers to "the space reserved in the database for storage of a particular type of data."

3. "Defined by Multiple Database Fields"

Defendant proposes that this phrase be interpreted as "a set of attributes of a single relation intended to hold information about the applicants or users, as the case may be." As indicated above, the phrase "defined by multiple database fields," modifies its predecessor phrase "database field structure." Defendant construes "database fields" as the attributes of a single two-dimensional table. Based on this reasoning, defendant contends that one skilled in the art would understand the phrase "defined by multiple database fields" to refer to the structure or schema of a table and not to the structure or schema of the database itself. Defendant uses "applicants or users" because claims 1 and 32 refer to the storage of application information and claim 12 refers to the storage of user information.

As noted above, while the specification reveals the use of a table-based database, it does not limit the type of database to one using a single table or multiple tables. As seen in plaintiff's September 9, 2004 oral argument presentation, there are several

[*67] different database structures familiar to those skilled in the art. Plt's Exh. 2 to Sept. 9, 2004 Or. Arg. at pp. 21-23. The patent claim language and specification disclose an invention which may employ any number of database structures to satisfy the "storing" claim limitation.

Defendant's proposal would limit the claim language to the preferred embodiment which describes the use of a three-column database structure headed by fields for "user identification," "attribute identification," and "data value." Id. at p. 24; see also Plt's Exh. 5 to Oct. 6, 2004 Or. Arg. at pp. 9, 15 (showing preferred embodiment as single two-dimensional table with columns for "applicant identifier," "characteristic identifier," and "value"). For the reasons discussed above, a construction limiting the term to the preferred embodiment is unduly narrow and is contradicted by the specification's express disclosure that a table-based database is not the only method of storing user information data.

Thus, I recommend construing "defined by multiple database fields" as "multiple spaces for the storage of multiple types of data." Accordingly, the entire claim phrase "database field structure defined

[*68] by multiple database fields" would mean "the grouping and organization of multiple spaces in the database reserved for the storage of particular types of data."

4. "Multiple Records and Each Record Capable of Storing Information Corresponding to Each of the Database Fields"

Defendant argues that "multiple records" means "the rows of a single relation" and that "record" in the phrase "each record capable of storing information corresponding to each of the database fields," means "a complete unit of related data items stored in named data fields." Defendant's proposals are based on the following definition of "record":

In a database management program, a complete unit of related data items stored in named data fields. In a database, data record is synonymous with row.

A data record contains all the information related to the item the database is tracking. Most programs display data records in two ways: as data-entry forms and as data tables. In a table-oriented relational database management system, the data records are displayed as horizontal rows and each data field is a column.

Que's Computer & Internet Dictionary 124 (found in Exh. B to Deft's Op. Brief).

[*69]

While it may not be readily apparent from defendant's proposed construction of "record," the underpinning of defendant's interpretation is that a "record" is limited to one "row" of a single two-dimensional table. Thus, "multiple records" means multiple rows of such a table.

In contrast, plaintiff construes "record" as a "collection of related data treated as a unit." Plaintiff explains that in the context of online admissions applications, a record might consist of all the data for a particular applicant's application such as name, address, high school attended, etc. Plaintiff contends that this application data may be organized in several different ways in a database with each carrying a different concept of "record":

(1) as multiple tables, with different tables storing different parts of the data, all tables being linked together by the applicant's identification number or some other linking principle. In that case, the "record" is the collection of linked data. See Pltf's Exh. 5 to Oct. 6, 2004 Or. Arg. at p. 11.

(2) all data for a single applicant are stored in a single row of a single table. In that case, the "record" is the data on that row. Id. at p. 7.

(3) as

[*70] multiple rows of a single table, in which case the rows, together, would constitute the "record." Id. at pp. 9, 15.

(4) stored as a related set of XML data, in which case a record is the set of values that are linked to a "document."

Because, plaintiff's argument goes, some of the various database structures contemplated by the patent carry a meaning of "record" that encompasses more than one "row," or, in the case of XML data, no "row" at all, defendant's proposed construction of "multiple records," which is premised on its definition of "record" as a single row of a two-dimensional table, must be rejected. And, plaintiff continues, its proposal is superior because it captures all of the possible concepts of "record" suggested by the various database structures plaintiff describes.

Plaintiff contends that its invention encompasses all of the database structures it describes and that its construction of "record" is broad enough to take on different meanings of "record" in different steps of the claims. For example, in a multiple table model, id. at p. 11, or a model expressed by the preferred embodiment where there is one table with three columns and each row contains a

[*71] user identification, an attribute identifier, and a value, the "record," according to plaintiff, is a collection of all of the rows containing information about a single applicant. Because each row in the multiple table model or in the three-column structure described in the preferred embodiment contains information about one of the applicant's attributes, the "record" should be thought of as all of those rows put together.

In support of this concept, plaintiff cites to a particular part of the specification. In describing a "User Attribute Sent Table," the specification refers to the previously described "User Attribute Table," which stores the values assigned to attributes for individual applicants. 9:45-46. The "User Attribute Table" is configured, in the preferred embodiment, as a single table with three columns, one for user identification, one for attribute identification number, and one for data value. n4 9:45-48. Each row of the table contains the information related to one attribute for one applicant.

n4 The preferred embodiment actually discloses four columns with the additional column for attribute identification number sequence which would be used to assign a relative sequence to the attributes. Because the visual aides shown by the parties omit that fourth column, I do not

use it here.

[*72]

The "User Attribute Sent Table," rather than storing the user information by attribute, stores the information contained in a completed application as a "snapshot of the completed application." 10:1-5. The specification further provides that:

the structure of the User Attribute Sent Table is very similar to that of the User Attribute Table. The primary key of the User Attribute Table is a user identifier (the users log-on name), whereas the primary key of the User Attribute Sent Table is a Transaction Identifier, which identifies a unique combination of user, application, and application terms. Thus, there can be multiple records for a single user in the User Attribute Sent Table if the user has submitted multiple applications or the same application for different application terms.

10:5-14 (emphasis added). I understand plaintiff's argument to be that (1) this description of the "User Attribute Sent Table" suggests that multiple records equates with multiple applications; (2) one application contains more than one attribute; (3) the structure of the User Attribute Table requires multiple rows for multiple attributes; (4) the User Attribute Sent Table, because

[*73] it is the same or similar to the User Attribute Table, would also store its attributes on multiple rows of the table; and (5) therefore, the User Attribute Table's reference to "multiple records" implies that "record" consists of the collection of information from several rows related to one applicant.

I disagree with plaintiff that this portion of the specification supports its construction of "record" as all of the information related to one applicant. Rather, although the specification indicates that the User Attribute Sent Table uses a similar structure to that described in connection with the User Attribute Table, meaning a single two-dimensional table with columns and rows, it does not suggest that each "record" comprises multiple rows of information related to one applicant. In the User Attribute Sent Table, it appears possible that a "record" is a single row. Given that the User Attribute Sent Table apparently stores user information as it appears in a single application, each row could include just the transaction identifier and all of the information contained in one application. Thus, one row is one completed application containing all of the user attributes sent. As such,

[*74] there would be "multiple records" for "multiple applications" with "record" referring to one "row." Thus, the quoted portion of the specification does

not confirm that the proper interpretation of "record" in the context of the storing step, means all of the information from all rows relating to one applicant.

The other problem with plaintiff's argument is that to satisfy additional claim limitations, plaintiff must offer a different interpretation of "record." This is contrary to [HN15] claim construction standards which ordinarily require the same term in a claim to be interpreted consistently. *Omega Eng'g*, 334 F.3d at 1334.

The automatically storing step provides, in relevant part, that the invention

automatically stores the applicant information entered into the second form data fields into the database by adding new records to the database, the automatic storing of the applicant information not altering the database field structure . . .

23:5-9; see also 25:16-10; 26:25-29. Because this step addresses an applicant's second application, the applicant already has user information stored in the database. If "record" is defined as all of the information

[*75] pertaining to one applicant, it does not fit within this claim step because the invention would not be adding a "new record" for the applicant. An old record, e.g. all of the information pertaining to one applicant, already exists. The only interpretation of "record" that satisfies this claim limitation is one that considers "record" to be a single "row," at least in the table-based data storage model.

Given this problem, plaintiff argued at the October 6, 2004 oral argument, that "record" must be interpreted in two different ways in claim 1 of the 278 patent. It must initially be considered as all of the information pertaining to one applicant for the first storing step, but then only as a single row for the automatically storing step. I recognize that plaintiff's proposed construction for "record" is broad enough to encompass both meanings because different groupings of "related data" can each be thought of as a "unit," but I cannot accept that even within the preferred embodiment's three-column two dimensional table, plaintiff must rely on two different meanings of the term "record." I conclude that this is inherently inconsistent with basic precepts of claim construction law.

[*76]

On the other hand, defendant's premise that a "record" is a single row works with all steps of the preferred embodiment, as well as with a structure using multiple tables, and with XML. With the preferred embodiment, a "record," when considered a "row," is consistent with the use of "record" in both the first storing step as well as the automatic storing step which refers to

the information from the second application.

In the storing step, the database includes "multiple records, each record capable of storing information corresponding to each of the database fields." In the three-column table expressed by the preferred embodiment, there are multiple rows, and thus, multiple records, and each row is capable of storing information corresponding to each of the database fields.

In the automatic storing step, the invention stores the applicant information entered in the second application's data fields in the database by adding new records to the database. With record meaning row, this limitation is easily satisfied by adding new rows to the database. This makes sense in that in the preferred embodiment, each attribute receives its own row in the three-column structure. With the first

[*77] application storage of information expressed in the storage step, the applicant will have several rows stored in a table (again, this is in the context of the preferred embodiment), each row corresponding to a particular attribute. With record meaning row, the new attributes from the second application, e.g. the attributes not part of the first application, will be stored as a new record, that is, a new row.

Because defendant's proposal for "multiple records" ("the rows of a single relation") implies that a record is a row in the context of a table-based database structure, and such a construction is consistent with the use of "record" in the storing claim limitation as well as the use of the "record" in the automatic storing claim limitation, in the context of the preferred embodiment, I recommend concluding that in the preferred embodiment, record should be understood as a single row in the table.

I reject, however, defendant's actual proposal for "multiple records" as "the rows of a single relation" because, again, this proposal restricts the term to the two-dimensional table expressed in the preferred embodiment which is inconsistent with the specification and claim construction

[*78] standards. Rather, I recommend construing "record" to be "a collection of related data items stored in named data fields" and "multiple records" to mean "multiple collections of related data items stored in named data fields." In the preferred embodiment, this construction includes the understanding that one record is one row. In other embodiments, however, the restriction of record to one row may not be workable. For example, with XML, there is no traditional "row."

As seen in plaintiff's hearing exhibits, there are data items and data fields in a database structure using XML. Plt's Exh. 5 to Oct. 6, 2004 Or. Arg. at p. 14. The data fields are any of the spaces where information will be

stored, such as the spaces between the symbols or the space between the symbols. Id. The data items are, for example "username" and "872." Id. A collection of related data items stored in named data fields could be "username" and "872." That would comprise the record in the XML system.

This understanding meets both the storing and automatically storing claim limitations. Each record is capable of storing information related to each of the database fields and a new record is added

[*79] to the database from the second form data fields. Accordingly, I recommend that "record" be construed as "a collection of related data items stored in named data fields."

5. "Data Element"

Dependent claim 11 of the 278 patent provides for

the method of claim 1 in which storing the posted applicant information in a database having a database field structure defined by multiple database fields includes parsing the applicant information . . . into data elements, the data elements being separately stored and identified, thereby allowing the data elements to be separately retrieved and rearranged in subsequent applications.

23:66-67 - 24:1-5. Defendant proposes the following construction of "data element": "the smallest, indivisible unit of data stored in the database, which in the context of a relation, is a single component of a row, corresponding to a particular attribute."

Defendant contends that based on the specification, "data element" should be understood to refer to the smallest, indivisible unit of data stored in the database. The specification notes that "to avoid having applicants enter data more than once to accommodate changes in format, the information

[*80] is preferably stored in simpler data elements, and then combined during second stage validation into the format requested by the institution." 15:36-40. Additionally, each "data element" maps to a unique attribute having "a unique identifier or alias." 7:39-49. Defendant argues that in the field of database design, one would understand a "data element" to mean a single component of a row, corresponding to a particular attribute.

Plaintiff proposes the following construction: "the smallest unit of data defined for use by a system. By way of example, a form may provide a single field for full

name,' which can be defined to contain the data elements first name,' middle name,' and last name.'" I recommend the adoption of plaintiff's proposal. Defendant's proposal expresses the construction in the context of the preferred embodiment two-dimensional table. Plaintiff's proposal is more easily adapted to other database structures.

6. "By Adding New Records to the Database Without Altering the Database Field Structure"

As stated above, this is part of the "automatic storing" function related to information obtained from the second application, seen in independent claims 1, 21, and 32

[*81] of the 278 patent. 23:5-9; 25:16-20; 26:25-29. Defendant proposes that this claim language be construed to mean "the addition of new records, or rows, to a relation does not alter the structure or schema of the relation."

I recommend that this claim phrase not be further construed. First, defendant again ties its proposal to a two-dimensional database structure. For the reasons previously explained, this is inappropriate. Second, I have already construed the individual terms "record," "database," and "database field structure." The only additional words are "adding," "new," "without," and "altering," none of which are used in any sense but their ordinary, customary meaning. Accordingly, there is no need to further construe this phrase.

7. "Extensible"

Defendant also proposes to construe the word extensible which appears at the end of the "automatic storing" function. The entire claim phrase reads:

automatically storing the applicant information entered into the second form data fields into the database by adding new records to the database, the automatic storing of the applicant information not altering the database field structure, thereby allowing new form data fields

[*82] corresponding to applicant information not previously requested to be added to an application form without requiring alterations of existing application forms or of programs that access the database, whereby customized applications to different institutions share data through common, extensible data storage.

23:5-14; see also 25:16-23; 26:25-33.

Defendant proposes that "extensible" be construed as having the ordinary and customary meaning of "capable of being extended." Defendant contends this is supported by the specification. 7:31-37 ("If an institution chooses to

include in its application a request for an applicant attribute that does not correspond to one included in the database, the database is easily extended to include the new applicant attributes without reprogramming the forms engine."). Defendant contends that construction is necessary, despite the term possessing its ordinary and customary meaning, to make clear that the term does not refer to a technical meaning of "extensible" in the field of database design. As defendant explains, at least one technical Internet dictionary refers to an "extensible database" as a database management system that allows access

[*83] to data from remote sources as if the remote data were part of that database. Deft's Op. Cl. Constr. Brief at p. 17 n.11 (citing to www.hyperdictionary.com).

I agree with defendant. As explained above, ordinarily, when a claim term is used only in its common, customary sense with no particular technical or scientific meaning, it is not necessary to construe the claim. However, here, to prevent the jury from mistakenly assuming, or the parties arguing, that in this context "extensible" refers to a technical concept in the field of database structuring, it is necessary to construe the claim. I recommend adopting defendant's construction.

C. No Rewriting of Code Function

The function at issue here is found in claims 1, 21, and 32 of the 278 patent. The relevant language is as follows:

automatically storing the applicant information entered into the second form data fields into the database by adding new records to the database, the automatic storing of the applicant information not altering the database, field structure, thereby allowing new form data fields corresponding to applicant information not previously requested to be added to an application form without requiring [*84] alterations of existing application forms or of programs that access the database, whereby customized applications to different institutions share data through common, extensible data storage.

23:5-14 (claim 1) (emphasis added); see also 25:20-23 (similar language in claim 21); 26:25-33 (similar language in claim 32).

Also relevant to this function is language from dependent claim 2 of the 278 patent:

The method of claim 1 in which creating a first

application form customized in accordance with the preferences of the first institution includes generating a first application in accordance with stored application description information and in which a modified first application can be generated by modifying the application description information without rewriting the computer program that creates the first application.

23:15-22 (emphasis added). Additionally, language from dependent claim 34 is relevant:

The method of claim 32 in which providing a database for storing information includes providing a database that is extensible without reprogramming the program for generating the customized application, thereby allowing an institution
 [*85] to readily request and store new information previously stored.

26:38-43 (emphasis added).

Defendant proposes constructions for the following terms appearing in these claims: (1) "alterations"; (2) "without requiring alterations of existing application forms or programs that access the database"; (3) "without rewriting the computer program that creates the first application"; and (4) "without reprogramming the program for generating the customized application[.]"

1. "Alterations"

Defendant proposes that "alterations" be construed as "making different in some particular, as in size, style, course, or the like; modification." Defendant bases this construction on the definition of "alter" from Webster's Encyclopedic Unabridged Dictionary of the English Language 43 (1994). Plaintiff argues that the term "alterations" is used in its plain, ordinary meaning and needs no construction. I agree with plaintiff.

2. "Without Requiring Alterations of Existing Application Forms or of Programs that Access the Database"

Defendant seeks separate constructions for "without requiring alterations of existing applications" and "without requiring alterations of . . . programs that access
 [*86] the database." As to the former, defendant proposes the following construction: "no programs for creating forms have to be rewritten, revised or reprogrammed and no forms have to be recreated or

regenerated from rewritten or revised programs in order to add new form data fields to a form." For the latter, defendant proposes the following construction: "no program such as the forms engine that sends and retrieves user data to and from a database needs to be rewritten or reprogrammed in order to add new form data fields to a form."

I agree with defendant that the prosecution history shows that the patent applicants distinguished their invention from the prior art by describing a system with a "flexible forms engine that can be readily extended to handle new data fields without reprogramming the database or recreating existing forms." Exh. A to Def't's Op. Cl. Constr. Brief. Based on the distinction, the 278 patent disclosed an invention in which existing forms do not have to be altered because the forms themselves are not "hard-coded" programs that have to be rewritten. See 1:30-34 (noting that in prior incarnations of internet application forms, "if the institution wishes to change
 [*87] the application form, the institution must typically revise the source code that creates the application form, thereby making changes to the application form expensive and inconvenient.").

The problem with defendant's proposals, however, is that I see no reason not to apply my previous construction of the phrase at issue. In the ApplyYourself case, I construed the following phrase: "thereby allowing new form data fields corresponding to applicant information not previously requested to be added to an application form without requiring alterations of existing application forms or of programs that access the database[.]" The construction I gave the phrase was: "new form data fields corresponding to application information not previously requested could be added to an application form without altering existing application forms or programs that access the database." I also separately construed the limited phrase "programs that access the database," as "the computer software programs that retrieve user data from the database and send user data to the database." Dec. 19, 2002 Op. at pp. 34-35.

The previous constructions make clear that existing application forms and programs that

[*88] access the database are not altered when new form data fields are added to the application form. This construction addresses the distinction made over the prior art in the prosecution history. Furthermore, defendant's proposed construction is cumbersome and unnecessarily wordy. The claim language itself is fairly straightforward and the prior constructions adequately define the claim limitations.

3. "Without Rewriting the Computer Program That Creates the First Application"

This claim phrase is taken from dependent claim 2 of the 278 patent, quoted above. Defendant proposes the following construction: "the code for the forms engine program does not have to be rewritten or reprogrammed because one has only to change the application description information that the forms engine uses to generate the application form."

Defendant cites to the specification of the 278 patent in support of its argument that "the computer program that creates the first application" is the forms engine program described elsewhere. The relevant excerpt is:

the applicant database can be extended to include new attributes without making any changes to the forms engine program or to the application

[*89] files of institutions that chose not to include the new data. The forms engine automatically uses the application data file to produce the requested application in HTML format for display on the applicant's browser. The application description file can be easily modified, for example, to change labels or to add additional fields. The appearance of the application for each institution can be changed by changing its application description file, without reprogramming the forms engine.

8:60-67 - 9:1-3.

Plaintiff contends that the phrase "without rewriting the computer program that creates the first application" need not be construed because it is not imbued with any scientific or technical meaning and all of the words in the phrase are used in their plain, ordinary, everyday sense. Plaintiff also disputes that aspect of defendant's construction that essentially equates the "computer program" with the "forms engine program."

Plaintiff contends that defendant inappropriately imports language from the specification into the proposed claim construction to create a limitation not seen in the claim language itself. Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 904 (Fed. Cir. 2004).

[*90] (noting impropriety of reading a limitation from the specification into the claims). [HN16] Reference to the specification is not an improper claim construction tool, because it is permissible to read the claims in light of the specification. *Id.* Thus, to the extent the specification is used as a way to confirm the apparent meaning of the claim language, the use of the specification is acceptable. Here, the use of the specification only confirms the claim language's obvious meaning that "computer program" means the forms engine program.

I start with the language of claim 2 of the 278 patent, quoted in its entirety:

The method of claim 1 in which creating a first application form customized in accordance with the preferences of the first institution includes generating a first application in accordance with stored application description information and in which a modified first application can be generated by modifying the application description information without rewriting the computer program that creates the first application.

23:16-23. The "computer program that creates the first application" clearly refers to the first part of this claim which describes the creation

[*91] of the first application form which has been customized in accordance with the preferences of the first institution. This in turn refers to a method expressed in claim 1.

In claim 1, the language provides that the method allows for the creation of, in response to a request from an applicant for an application to a first institution, a first application form customized in accordance with the preferences of the first institution. 22:37-40.

Because claim 1 discloses no further information regarding what part of the system actually creates the application to a first institution, it is necessary to examine claim 21 which describes the system used for creating and processing the forms previously disclosed in independent claim 1 and subsequent dependent claims. Claim 21 discloses a system which relies on a "forms engine program" to generate a form from the form description information. Read together, claims 21, 1, and 2 provide for the creation, by a forms engine program, of a first application form customized in accordance with the preferences of the first institution. Thus, the claim language itself supports equating the meaning of "computer program" with "forms engine program."

Accordingly,

[*92] while I conclude that the remaining words in this phrase do not need construction because the words "without," "rewriting," and "the first application" are used only in their non-technical ordinary sense, I agree with defendant that "computer program" should be construed to mean forms engine program. I recognize that recommending a construction that incorporates another construed term will require the cross-referencing which I described above as unnecessarily complicating a construction. However, in this instance, the construction which relies on "forms engine program" is required

because unlike the other constructions discussed above, the jury could easily apply the wrong meaning to the disputed phrase in this instance. Therefore, I recommend that the phrase "without rewriting the computer program that creates the first application" be construed as "without rewriting the forms engine program that creates the first application."

4. "Without Reprogramming the Program for Generating the Customized Application"

This claim phrase is taken from dependent claim 34 of the 278 patent, quoted above. Defendant proposes the same construction for this phrase as for the previous phrase: "the

[*93] code for the forms engine program does not have to be rewritten or reprogrammed because one has only to change the application description information that the forms engine uses to generate the application form."

As with the previous phrase, defendant contends that the "program for generating the customized application" must refer to the forms engine program. In addition to the plain meaning of the claim language, defendant notes that the specification of the 278 patent indicates that the database for storing user information can be extended to include new user attributes that do not correspond to ones already in the database and that this extension does not require reprogramming the forms engine program. 7:29-35; 8:60-67-9:1-3.

Claim 34 refers to the method of claim 32 which in turn, discloses a method which includes generating a customized application. Claim 34, however, does not itself disclose what actually generates that customized form. Again, it is necessary to examine claim 21 for that information. As discussed above, claim 21 discloses that the function is performed by the forms engine program. Thus, I agree with defendant that the reference to "the program for generating

[*94] the customized application" in claim 34 refers to the forms engine program. This is confirmed by the specification as indicated in the previous paragraph.

I recommend that the phrase "without reprogramming the program for generating the customized application" be construed to mean "without reprogramming the forms engine program for generating the customized application."

D. Forms Processing Function

This function is expressed by the following language in claim 1 of the 042 patent:

processing by the third party forms servicer the

user information in accordance with the preferences of the institution of higher education to which the form is directed to make the user information available to the institution in a format specified by the institution, the third party forms servicer thereby providing to public users customized forms identified with institution[s] of higher education and providing to the institutions custom-formatted data, while relieving the institution of the administrative burden of processing forms and payments.

35:34-44; see also 36:49-57 (nearly identical language in claim 16); 38:1-9 (nearly identical language in claim 32).

In addition, in

[*95] the preamble to claim 1, the patent states:

A method of processing over a computer network forms directed by multiple public forms users to multiple institutions of higher education, the forms being processed by a third party forms servicer that is neither one of the institutions of higher education nor one of the public forms users, . . .

35:2-6. This language is more or less repeated in the preambles to the other independent claims of the 042 patent. 36:32-36 (claim 16); 37:46-50 (claim 32); 38:38-42 (claim 38).

Defendant proposes constructions for the following terms: (1) processing; (2) providing; (3) by the third party forms servicer; and (4) in a format specified by the institution.

One of the most contentious issues in the ApplyYourself case was the construction of the first part of the language quoted above from claim 1:

processing by a third party forms servicer the user information in accordance with the preferences of the institution of higher education to which the form is directed to make the information available to the institution in a format specified by the institution.

I first construed this in the July 2003 summary judgment opinion,

[*96] then in a subsequent August 20, 2003 Order on plaintiff's motion for reconsideration, and then again during trial in a September 3, 2003 Opinion. I finally instructed the jury that the entire phrase was to be construed as follows:

User information provided to the institution by the servicer is available in an unlimited number of formats and is processed wholly by the third party forms servicer and not the institution. That is, the function is one of providing limitless formats for the transfer of user information from the servicer to the institution with no additional formatting or mapping performed by the institution.

This construction does not preclude formatting, mapping, or other manipulation of the user information data by the institution once it is received by the institution in a format the institution specified.

Any reference to "unlimited number of formats" and "limitless formats" should be interpreted to mean that the third party forms servicer provides the user information to the institution in any format specified by the institution.

"in a format specified by the institution" means in any file format, and it may include any other type of format, specified [*97] by the institution.

Final Jury Instructions at p. 14 (dkt # 323). This claim construction is one of several issues from the ApplyYourself case currently on appeal before the Federal Circuit. Keeping this prior construction in mind, I turn to defendant's proposals.

1. "Processing"

Defendant first contends that references to "processing" in the preambles to the independent claims to "processing over a computer network forms directed by . . ." and "the forms being processed by a third party forms servicer" should be construed to mean processing of the user information captured by a form rather than the form itself. I agree that the plain language of the claims supports this interpretation.

Defendant next argues that as to processing user information, the term "process" should mean "to subject to a special process or treatment (as in the course of manufacture)." Then, defendant continues, because the claim language refers to processing the user information to make it available in a format specified by the institution, the construction of "processing" must include a reference to making the information available in a format specified by the institution.

Thus, defendant argues

[*98] that as it relates to forms, "processing" includes the step of "subjecting the user information to a special process or treatment so as to make it available to

an institution in a format specified by the institution."

I reject this proposal. Defendant's proposed construction invites confusion by referring to "special process or treatment" because such terms would themselves likely require additional construction. Furthermore, I do not agree that the verb "processing" must be construed by incorporating the phrase "making it available to an institution in a format specified by the institution." That limitation is obvious from the claim language itself. While that may be the end result of the action of "processing," it is not required as part of the construction of "processing."

I have already construed the term "processing" in the context of the electronic payment function. I see no need to adopt a different construction here in the context of processing user information. Nothing in the claim language or specification indicates that the term carries different meanings in the two separate functions. Moreover, as noted above, ordinarily the same term in a claim is to be interpreted

[*99] consistently. Omega Eng'g, 334 F.3d at 1334. Thus, I propose that "process" or "processing" in the context of forms processing, be construed as "the manipulation of data within a computer system."

2. "Providing"

Defendant suggests that the term "providing" in independent claims 16, 32, and 38 of the 042 patent implies the "processing" function expressly claimed in claim 1 because these other independent claims call for the user information to be provided by the third party forms servicer to the institution in a format specified by the institution. Defendant states that the ordinary definition of provide, from Merriam Webster's Collegiate Dictionary 940 (10th ed. 1994), means "to supply or make available." Defendant contends that this definition is consistent with the language of claim 1, stating that the processing step, which defendant argues is implied by "providing" in the other independent claims, is intended to "make the user information available to the institution in a format specified by the institution." Thus, defendant proposes that as it relates to user information, "providing" means "to make available."

Plaintiff contends that because "provide"

[*100] is used only in its everyday, ordinary sense with no technical meaning having been ascribed to it, no construction is required. I agree with plaintiff.

3. "By the Third Party Forms Servicer"

The claims require the "processing" to be performed by the "third party forms servicer." The preamble for each claim recites that the "third party forms servicer" is

"neither one of the multiple institutions nor one of the public form users[.]" 35:5-6; 36:36-37; 37:49-50; 38:41-42.

Defendant argues that I must construe "third party forms servicer" consistently throughout each claim because "the same word appearing in the same claim should be interpreted consistently." Digital Biometrics v. Identix, Inc., 149 F.3d 1335, 1345. Accordingly, defendant proposes that I adopt the same construction for "third party forms servicer," whether it be in the context of processing forms or payments. In defendant's opinion, as discussed above, the third party forms servicer which processes electronic payments is limited to the business entity hosting the forms engine software. Thus, according to defendant, the third party forms servicer which processes forms must also be limited to that same business entity

[*101] hosting the forms engine software.

I do not dispute defendant's premise that the same word appearing in the same claim should be interpreted consistently. I believe that I have done that by referring to the "third party forms servicer" as the business entity hosting the forms engine software in both the electronic payment context and in the forms processing context. My construction of "third party forms servicer" as that entity remains constant throughout the claim.

What is different, however, is that the function of electronic payment processing inherently requires the participation of an outside entity in the process. As explained above, at a minimum, financial institutions play a role in the processing function. Thus, while "third party forms servicer" means the business entity hosting the forms engine software, the function of processing of electronic payment information requires the participation of the third party forms servicer while contemplating the participation of an additional party.

The forms processing function does not present the same issue. There is no reason why the third party forms servicer cannot be the exclusive processor of user information. Accordingly, the

[*102] third party forms servicer, when it comes to processing user information, is the sole entity involved in the process.

Thus, I recommend that the term "third party forms servicer" be construed to mean "the business entity hosting the forms engine software" no matter which function (electronic payment or forms processing) is being considered. However, I further recommend, as discussed above, that the processing of electronic payments not be limited to that entity while the processing of user information should be limited to that entity. Additionally, as before, the institution and the

user/applicant are not involved in either function.

4. "Format" and "In a Format Specified by the Institution"

Given plaintiff's appeal of the prior claim construction of these phrases in the ApplyYourself case, plaintiff requests I defer claim construction of these phrases in this case pending the resolution of that appeal by the Federal Circuit. Acceding to plaintiff's request could unnecessarily prolong the length of this case. The case schedule for this case has, hopefully, allowed time for a decision from the Federal Circuit before trial. There is no need to defer consideration of the construction

[*103] here.

Defendant states that it does not take issue with my prior construction. But, in the briefing, defendant appears to suggest that I add additional language. Defendant states that the forms processing steps, including the final step of processing the user information to make it available to an institution in a format specified by the institution, "must be construed as leaving nothing that the institution would have to do by way of processing before it can make use of the user information."

I reject the proposed construction because I think it adds nothing to the previous construction and simply uses different words to express the same meaning. When the claim limitation as I have construed it, is met, there is, by definition, nothing that the institution must do by way of processing before it can make use of the user information. That is the whole point of providing it in any format requested by the institution. The prior construction gives a more complete explanation of the concepts expressed by the claim limitation, including the concept of the institution not having to do anything related to processing, while allowing for the institution to choose to retain parts of the processing

[*104] function if it desires to do so.

E. No Administrative Burden Function

Independent claims 1, 16, 32, and 38 of the 042 patent refer to "relieving the institution of the administrative burden of processing forms and payments." 35:42-44; 36:55-57; 38:7-9; 38:60-61. Defendant proposes constructions for: (1) "relieving"; (2) "administrative burden"; and (3) the entire phrase "while relieving the institution of the administrative burden of processing forms and payments."

1. "Relieving"

Defendant argues that the addition of the "relieving" clause, read in the context of the claims limitations, creates a limitation on the nature and extent of the

processing that a third party forms servicer must do. Defendant contends that the third party forms servicer must provide processing sufficient to eliminate the need for the institution to engage in processing. Defendant accurately notes that I have previously recognized that the clause creates a limiting effect in the prior construction of the phrase "in a format specified by the institution." Sept. 3, 2003 Opinion at p. 9.

Citing Merriam Webster's Collegiate Dictionary 988 (10th ed 1994) (def. 1 (a)), defendant argues that "relieving"

[*105] means "to free from a burden." Based on this, and on defendant's contention that this ordinary meaning is consistent with the patent specification, defendant proposes to construe "relieving" as "freeing from a burden."

Plaintiff objects to the implication that "freeing" is synonymous with eliminating. Plaintiff cites the American Heritage Dictionary for the proposition that the ordinary meaning of "relieving" is to "lessen," not eliminate. Plt's Resp. Brief at p. 30 (citing American Heritage Dictionary 1474 (4th ed. 2000) (defining "relieving" as: "To cause a lessening or alleviation of.")). Plaintiff argues that while relieving can include eliminating or "freeing from a burden," relieving should not be limited to that meaning. Plaintiff cites to Tex. Digital Sys. v. Telegenix, Inc., 308 F.3d 1193, 1202, for the proposition that "if more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all such consistent meanings."

I conclude that defendant's proposal is more consistent with the interpretation of "in a format requested by the institution" than plaintiff's proposal. I start with the idea, as expressed

[*106] in the September 2, 2003 Opinion in the ApplyYourself case, that the "thereby" clause containing the phrase "relieving the institution of the administrative burden of processing forms and payments," "acts as a summary of the function of the claim [limitation] and indicates that by providing the processed user information to the institution as custom-formatted data in a format specified by the institution, the claim will relieve the institution's burden of processing forms." Sept. 3, 2003 Op. at p. 9. I noted that the "thereby" clause was "critical to my construction" of the "in a format requested by the institution" claim phrase because "it is the relief of the burden of the institution that instructed my reading of the term format." *Id.*

"Relieving," then, should properly be understood to mean the elimination of anything the institution must do to use the data. If there are limitations on the abilities of the third party forms servicer to provide limitless file

formats and thus, a limit on its ability to provide the user information in a format specified by the institution, then the burden of processing the user information is not eliminated and thus, not relieved,

[*107] because the institution then must do some processing to make use of the data.

While the institution may choose to do any level of "processing" whether electronic or physical, to the data received from the third party forms servicer, it cannot be required to do so by the inabilities of the third party forms servicer to provide the data in the format requested by the institution. The "relieving" claim term and the "in a format specified by the institution" claim phrase, are, in effect, two sides of the same coin. "Relieving," when read in the context of the claim construction for the entire "processing of user information" claim limitation, including the phrase "in a format specified by the institution," means eliminating.

This interpretation does not negate the part of the prior construction of the "processing of user information" limitation which provides that the construction "does not preclude formatting, mapping, or other manipulation of the user information data by the institution once it is received by the institution in a format the institution specified." The construction assumes that the burden on the institution of processing user information is eliminated once it

[*108] receives the user information in a format it specified. The fact that the institution may choose to do additional formatting, mapping, or manipulation after that point does not suggest that the burden is not eliminated, or that by construing "relieving" as eliminating is inconsistent with this interpretation.

2. "Administrative Burden"

Defendant states that the term "administrative burden" requires no formal definition, but then it proposes the following construction: "the administrative tasks typically associated with the processing of forms such as admissions applications and any payments associated with the forms." I recommend that this term not be construed as it is used in its ordinary, customary fashion with no technical or scientific meaning revealed by the claims or the specification.

3. "While Relieving the Institution of the Administrative Burden of Processing Forms and Payments"

Based on its constructions for "relieving" and "administrative burden," defendant proposes the following construction for the entire phrase at issue:

the institution is freed from the administrative

burden of processing the relevant forms and associated payments. With respect to the processing

[*109] of forms, the institution must be able to receive the user or applicant information in whatever file and other format it has specified, such that no further formatting or mapping has to be done to the data. With respect to the processing of payments, the institution must be able to receive an electronic payment credited to its account and matched to the form with which the payment is associated so that the institution is freed from the administrative burden of handling any aspect of the payment process, from verification of credit card numbers to settlement to reconciliation.

Def't's Op. Brief at pp. A-3 - A-4.

I recommend that this construction not be adopted. I conclude that given that the operative terms in the claim phrase have already been construed or need no construction, any additional construction is unnecessary.

G. Miscellaneous Terms

Defendant proposes constructions for two terms it refers to as "miscellaneous terms": (1) metadata; and (2) relational database.

1. "Metadata"

The term metadata appears in claims 19, 20, 36, and 37 of the 278 patent:

19. The method of claim 18 in which the metadata includes validation rules for the data.

20. The method
[*110] of claim 18 in which the metadata specifies the sharing between applications or the accessibility of the data.

36. The method of claim 32 in which the database stores metadata describing the data.

37. The method of claim 36 in which the metadata describes permissible values for the data and further comprising comparing the applicant data in the completed form data fields with the permissible values.

24:47-51; 26:47-52.

Defendant cites to the following definition of "metadata" from the specification of the 278 patent:

"Metadata, that is, information that characterizes the applicant data is also stored." 2:27-28. Defendant argues that metadata may describe various characteristics of the user attributes that are being stored in the database. Defendant contends that these characteristics include the properties of the fields and the relation in which the user data are arranged. Based on these arguments, defendant offers the following construction for "metadata": "information that describes user data including the properties of the fields and the relation in which user data are arranged."

Plaintiff takes issue with defendant's proposal. In contrast to defendant's proposal,

[*111] plaintiff offers the following: "information that describes data." As plaintiff notes, the parties agree that metadata is information that describes data.

Plaintiff opposes defendant's inclusion of "user data." Plaintiff states that the limitation of "user data" is not in the claim. Plaintiff indicates that the specification makes clear that metadata can be used to describe parameters, such as validation criteria for data, rather than describing user data. Plaintiff cites to the following part of the specification:

Metadata, that is, information that characterizes the applicant data is also stored. For example, in one embodiment, an attribute table describes characteristics, such as permissible values and accessibility to various institution personnel, of applicant attribute data. In another embodiment, such properties of the applicant attributes are stored in XML files. Storing metadata provides greater control over the data validation, sharing between forms, grouping, and access.

2:30-37. Based on this reference, plaintiff argues that defendant's restriction to user data is inconsistent with the ordinary meaning and is contrary to the intrinsic evidence. Furthermore,

[*112] plaintiff contends that defendant's proposal that the "user data" must also include "properties of the field" and "the relation in which user data are arranged," is not required.

I agree with plaintiff. As to "user data," even claim 19 itself seems to contradict defendant's proposal by stating that the "metadata includes validation rules for the data." Additionally, the specification reference cited by plaintiff suggests that while metadata indeed includes information characterizing the applicant data, the "characteristics" include "permissible values" and "accessibility to various institution personnel." These encompass more than "user data." Thus, "metadata" it is not restricted to "user data."

Another problem is defendant's references to "field" and "relation" which suggest that "metadata" is information about data as it exists in a two-dimensional table. For the reasons described above, this is inconsistent with the patent's specification and basic claim construction standards which caution against limiting a claim term to its preferred embodiment. Accordingly, I recommend that plaintiff's proposal for "metadata" be adopted.

2. "Relational Database"

The term appears in claims

[*113] 17, 31, and 39 of the 278 patent:

17. The method of claim 1 in which the database includes a relational database or XML data.

31. The system of claim 21 in which the first or second data storage comprises one or more relational database tables stored on a computer readable medium.

39. The method of claim 32 in which the database includes a relational database.

24:43-44; 25:58-60; 26:56-57.

Defendant proposes the following construction for the term: "a database organization method that links files together as required." Plaintiff proposes the following construction: "a database that is organized in a manner than can link tables or records together as required."

Obviously, the two proposals are similar. Plaintiff argues that its alternative uses the terminology "tables or records" instead of "files" because that is grammatically consistent with the claim language and is more accepted in the industry. I agree with plaintiff and recommend that plaintiff's proposal be adopted.

H. Performance of Method Claims in Order Recited

Defendant argues that the method claims of both patents (independent claims 1 and 32 of the 278 patent and independent claims 1, 16,

[*114] and 38 of the 042 patent), should be construed to require that the steps set forth be performed in the order in which they are recited. Plaintiff asserts that it would be technologically possible to achieve the purpose of the claims even if many of the claim steps were performed in a sequence different than that recited in the claims.

[HN17] "Unless the steps of a method actually recite an order, the steps are not ordinarily construed to require one." Interactive Gift Express, Inc. v. Compuserve Inc.,

256 F.3d 1323, 1342 (Fed. Cir. 2001). However, requiring the performance of the steps of a method in the order recited may "ensue when the method steps implicitly require that they be performed in the written order." *Id.*

[HN18] A two-part test is used for "determining if the steps of a method claim that do not otherwise recite an order, must nonetheless be performed in the order in which they are written." Altiris, Inc. v. Symantec Corp., 318 F.3d 1363, 1369 (Fed. Cir. 2003). First, the court looks to the "claim language to determine if, as a matter of logic or grammar, they must be performed in the order written." *Id.* "If not, we next look to the rest of [*115] the specification to determine whether it directly or implicitly requires such a narrow construction." *Id.* at 1370 (internal quotation omitted). "If not, the sequence in which such steps are written is not a requirement." *Id.*

1. Claim 1 of the 278 Patent

This claim discloses the following steps, listed in the order they are recited in the claim:

(1) creating a first application form to a first institution in response to a request from an applicant, the form customized to the preferences of the first institution and including first form data fields for entering applicant information;

(2) presenting this first application form to the applicant over a computer network;

(3) entering applicant information in the first form data fields;

(4) posting the applicant information entered in the first form data fields to a server;

(5) storing the posted applicant information in a database (with more info about the database disclosed);

(6) creating a second application form to a second institution in response to a request from "the" applicant (as opposed to "a" applicant disclosed in the first step addressing the first application form), the form customized to the

[*116] preferences of the first institution and including second form data fields for entering applicant information, at least one which corresponds to applicant information not entered into the first form data fields;

(7) automatically inserting into some of the second form data fields applicant information from the database;

(8) providing the second application form to the applicant over a computer network;

(9) entering applicant information into the second form data fields into which information was not inserted from the data storage or into which the data inserted from the data storage is to be changed;

(10) posting the applicant information entered into the second form data fields to the server; and

(11) automatically storing the applicant information entered into the second form data fields into the database.

I conclude that as a matter of logic, the steps of this claim implicitly require that they be performed in the written order. The invention cannot provide the first application to the applicant in step (2) without first creating the first application in step (1). The applicant cannot enter the applicant information in the first application form data fields in step (3), without

[*117] having been provided the first application in step (2). The applicant information in the first form data fields cannot be posted to the server in step (4), unless it has been entered in step (3). The applicant information cannot be stored in the database in step (5), unless it has been posted in step (4).

A second application form disclosed in step (6) cannot be a "second" application form unless there has already been a "first" application form recited in steps (1) - (5). Additionally, the reference in step (6) is to "the" applicant, with the antecedent basis clearly being the applicant who has filled out the first application form data fields in steps (1) - (5). For the server to recognize "the" applicant, "the" applicant's information from the first form must have been stored in the database in step (5).

The next step (7) discusses the automatic populating of data stored in the database as a result of steps (1) - (5), into the data fields in the second application created in step (6). Thus, because the second application needs to be created in step (6) before this automatic populating of data into that second application form, and because the first application data has to have

[*118] been stored in the database as a result of steps (1) through (5), then logically, steps (1) through (5) must occur before step (6) and (6) must occur before (7).

Step (7) must occur before step (8). The automatic population of the second form data fields must occur before the second form is provided to the applicant because if the second form data fields were not automatically populated before the applicant received the second form, one of the main purposes of the invention would be defeated, and because if the second form is provided to the applicant before the automatic population of the second form data fields, there appears to be no step to trigger the automatic insertion of this data.

Accordingly, steps (1) through (8) must occur in sequence.

Next, step (8), which provides the second application form, must occur before step (9) which is where the applicant enters applicant information onto the second form. Then, step (9), entering the new applicant information into the second form, must occur before the posting of the entered applicant information to the server in step (10), and the posting in step (10) must occur before the information is stored in the database in step (11).

[*119]

Thus, as for claim 1 of the 278 patent, I recommend concluding that the steps must be performed in the order recited.

2. Claim 32 of the 278 Patent

This claim discloses the following steps, listed in the order they are recited in the claim:

(1) providing at least two application information files, each describing a customized application for an institution;

(2) providing a database for storing applicant information entered on an application and for providing applicant information for inserting into subsequent applications;

(3) generating a customized application in response to a request over a computer network from an applicant, the application form and content being specified by one of the at least two application information files, the application including multiple form data fields for entering applicant information;

(4) populating the form data fields of the customized data fields of the customized application using applicant information from the database;

(5) transmitting the customized application over a computer network to a requesting applicant;

(6) completing form data fields of the application that were not populated with applicant information from the database;

[*120] and

(7) automatically storing the applicant information from the database.

Here, I disagree with defendant that all of the steps in this claim must be performed in the order recited. I conclude that this method claim could start with either step (1), providing at least two application information

files, or step (2), providing a database for storing applicant information. The claim language and specification suggest no reason why either one of these steps must precede the other.

However, the claim language makes clear that step (1), providing at least two application information files, must occur before step (3) which requires the generation of a customized application based on the specifics in one of the at least two application information files.

The claim language also makes clear that step (4), regarding populating the form data fields of the customized application with applicant information in the database, must occur after both steps (2) and (3). Step (4) requires the information contained in the database outlined in step (2) and it also requires the customized application recited in step (3).

For the reasons explained above in the context of steps (7) and (8) of claim 1

[*121] of the 278 patent, step (4), addressing the population of the data fields using applicant information in the database, must precede step (5) in which the customized application is transmitted to a requesting applicant.

Steps (1) through (5) must precede step (6) because step 6 requires the applicant to enter information into the data fields of the customized application that were not automatically populated with information stored in the database. And, step (7) must be preceded by step (6) because it requires storing the information that was entered in step (6).

Thus, I recommend concluding that while steps (1) and (2) must precede step (3) and steps (3) through (7) must occur in the order recited, step (1) and step (2) could be performed with either one preceding the other.

3. Claim 1 of the 042 Patent

This claim discloses the following steps, listed in the order they are recited in the claim:

(1) presenting to a form user over a computer network by a third party forms servicer in response to a request by the form user, a form directed to one of multiple institutions of higher education, the form being generated by a forms generator that generates multiple customized forms;

[*122]

(2) entering user information onto the form;

(3) entering payment information;

(4) the third party forms servicer receiving user

information and electronic payment information entered by the user;

(5) processing of an electronic payment by the third party forms servicer; and

(6) processing the user information by the third party forms servicer.

I recommend concluding that the claim language of this claim logically requires the steps to be performed in the sequence in which they are recited except that step (3) could be performed before or after step (2), and steps (5) and (6) could precede each other as long as they follow step (4).

4. Claim 16 of the 042 Patent

This claim discloses the following steps, listed in the order they are recited in the claim:

(1) presenting to a form user over a computer network by a third party forms servicer a form directed to one of the multiple institutions, the forms including fields for the forms user to enter information;

(2) receiving by the third party forms servicer over the computer network user information and electronic payment information entered by the user;

(3) processing by the third party forms servicer an electronic payment
[*123] associated with the form;

(4) providing by the third party forms servicer the user information to the institution to which the form is directed in a format specified by the institution.

Here, step (1) has to precede step (2) because the presentation of the form to the user has to occur before the third party forms servicer can receive any user information or electronic payment information entered by the user. Because step (2) contains the receipt of both the user information and the electronic payment information, there is no way to separate those functions in this claim and it seems clear that the receipt of the information in step (2) must occur before the third party forms servicer can either process the electronic payment information as stated in step (3) or before it can provide the user information to the institution in step (4).

This, I recommend concluding that the steps in claim 16 must be performed in the order in which they are recited.

5. Claim 28 of the 042 Patent

This claim discloses the following steps, listed in the

order they are recited in the claim:

(1) receiving by an institution from a third party forms servicer user information in format . . . , the user

[*124] information being derived from a form customized for the institution, . . . ;

(2) receiving from the form user via the third party form servicer an electronic payment associated with the customized form; and

(3) thereby providing to the form user a customized form identified with the institution and providing the institution with custom formatted data and electronic payment.

Clearly, steps (1) and (2) have to occur before step (3). However, step (1) does not necessarily need to precede step (2) as they both involve the institution receiving either user information or an electronic payment from or via the third party forms servicer. These could happen simultaneously for example.

While step (1) and step (2) must precede step (3), because (1) and (2) could occur simultaneously, I recommend concluding that the steps in claim 38 do not need to be performed in the order in which they are recited.

CONCLUSION

I recommend construing the claims as discussed in this Findings & Recommendations and concluding that the steps in claim 1 of the 278 patent and the steps in claim 16 of the 042 patent must be performed in the order recited.

SCHEDULING ORDER

The above Findings and Recommendation

[*125] will be referred to a United States District Judge for review. Objections, if any, are due November 19, 2004. If no objections are filed, review of the Findings and Recommendation will go under advisement on that date.

If objections are filed, a response to the objections is due December 3, 2004, and the review of the Findings and Recommendation will go under advisement on that date.

IT IS SO ORDERED.

Dated this 29th day of October 2004.

Dennis James Hubel

United States Magistrate Judge

LEXSEE

**CRYOVAC INC., Plaintiff/Counter-Defendant, v. PECHINEY PLASTIC
PACKAGING, INC., Defendant/Counter-Plaintiff.**

Civil Action No. 04-1278-KAJ

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

2006 U.S. Dist. LEXIS 19100

April 13, 2006, Decided

CORE TERMS: layer, film, patent, arranged, symmetrically, oriented, specification, thickness, composition, coextruded, symmetrical, chemical, polymeric, bubble, blown, symmetry, product-by-process, accomplished, racking, construe, comprising, stretching, patentee, heated, proposed construction, asymmetrical, infringement, coextrusion, inventor, configuration

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JUDGES: Kent A. Jordan, District Judge.

OPINIONBY: Kent A. Jordan

OPINION: Kent A. Jordan

JORDAN, District Judge

I. INTRODUCTION

This is a patent infringement case. Before me are the parties' requests to construe the disputed claim language of U.S. Patent No. 4,755,419 (issued July 5, 1988) (the "419 patent") pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996). Plaintiff Cryovac, Inc. ("Cryovac") and Defendant Pechiney Plastic Packaging, Inc., ("Pechiney") have

[*2] fully briefed their positions and appeared before me in oral argument on December 16, 2005. Jurisdiction is proper under 28 U.S.C. §§ 1331 and 1338.

II. BACKGROUND

A. Procedural Background

Cryovac filed its initial complaint for patent infringement on September 20, 2004 (Docket Item ["D.I."] 1), and amended it on July 25, 2005 (D.I. 125) and October 12, 2005 (D.I. 185, the "Second Amended Complaint"). In the Second Amended Complaint, Cryovac accuses Pechiney of infringing claim 11 of the 419 patent (D.I. 185 at P11), of

willfully infringing that claim (*id.* at PP30-34, 44), of tortious interference with contract (*id.* at P21) and of tortious interference with prospective contractual relations (*id.* at P28). In its answer to the Second Amended Complaint (D.I. 260, the "Answer"), Pechiney denied infringement, and asserted counter-claims that the '419 patent is invalid and unenforceable. (D.I. 260 at 11-15.) The parties are scheduled to try this case to a jury beginning on June 12, 2006. (D.I. 237.)

B. The Disclosed Technology

The '419 patent discloses "[a] multilayer film with a combination of oxygen barrier [*3] properties, toughness, shrinkability, and good optical properties," ('419 patent, Abstract), used "to package various articles, including perishable food products" (*id.* at col. 1, Ins. 10-11). Cryovac alleges that products sold by Pechiney under the trade name ClearShield TM improperly embody the patented technology. (D.I. 185 at PP10-11.) Claim 11 of the '419 patent, the only claim asserted here, claims the following:

An oriented coextruded film having at least seven layers arranged symmetrically comprising:

- (a) a core layer comprising an ethylene vinyl alcohol copolymer;
- (b) two intermediate layers each comprising a polyamide;
- (c) two outer layers each comprising a polymeric material or blend of polymeric materials; and
- (d) two layers, each comprising an adhesive polymeric material, which adhere each of said intermediate layers to a respective outer layer.

(the '419 patent, at col. 9, In. 67 - col. 10, In. 9.)

III. APPLICABLE LAW

Patent claims are construed as a matter of law. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454-56 (Fed. Cir. 1998) (en banc). "The words of a claim 'are generally given their ordinary and customary [*4] meaning.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). That ordinary meaning "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313.

To determine the ordinary meaning, the court should review "the same resources as would" the person of ordinary skill in the art. *Multiform Dessicants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998). Those resources include "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004).

"The claims themselves provide substantial guidance as to the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314. Both "the context in which a term is used in the asserted claim" and the "other claims of the patent [*5] in question" are useful for understanding the ordinary meaning. *Id.*

"The specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id.* at 1315 (quoting *Vitronics*, 90 F.3d at 1582). In short, the claims "must be read in view of the specification, of which they are a part." *Markman*, 52 F.3d at 979. Thus, "the construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998).

On occasion, "the specification may reveal a special definition given to a claim term ... that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316 (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). The specification may also "reveal an intentional disclaimer, or disavowal, of claim scope by the inventor [*6] ... [, which] is regarded as dispositive." *Id.* (citing *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343-44 (Fed. Cir. 2001)).

The court "should also consider the patent's prosecution history." *Markman*, 52 F.3d at 980. "Like the specification, the prosecution history provides evidence of how the [Patent and Trademark Office] and the inventor understood the

patent." *Phillips*, 415 F.3d at 1317 (citing *Lemelson v. Gen. Mills, Inc.*, 968 F.2d 1202, 1206 (Fed. Cir. 1992)).

The court may also rely on extrinsic evidence, which is "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980. In particular, "dictionaries, and especially technical dictionaries, ... have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology." *Phillips*, 415 F.3d at 1318 (citing *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002)). However, extrinsic evidence [*7] is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004) (quoting *Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n*, 366 F.3d 1311, 1318 (Fed. Cir. 2004)).

During claim construction, "the sequence of steps used by the judge in consulting various sources is not important; what matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law." *Phillips*, 415 F.3d at 1324.

IV. CLAIM CONSTRUCTION

Cryovac alleges that Pechiney's ClearShield products infringe claim 11 of the '419 patent. (D.I. 185 at PP10-11.) In that claim, the parties dispute the meaning of the following claim terms: "oriented," "oriented coextruded film," "arranged symmetrically," and "at least seven layers arranged symmetrically." n1 (D.I. 203, 204.)

n1 In addition to these two claim terms, in their briefing and their joint claim construction chart, the parties dispute every word in claim 11 of the '419 patent. (See D.I. 247 at 1-15; D.I. 203 at 11-38; D.I. 204 at 5-32.) However, the parties essentially agree on the construction of many of those terms, and even where they disagree, they appear to agree that the construction of those terms does not affect the outcome of the case. (See D.I. 247 at 3 (construction of the term "film"); *id.* at 6 (construction of the term "layers"); D.I. 204 at 6 (Pechiney statement that "it believes that the Court need not address [the] ... claim terms" other than "arranged symmetrically" and "oriented"); D.I. 298 (Oral Argument Transcript) at 8.) Additionally, although the parties dispute the construction of the term "coextruded," both parties agree that to be "coextruded," all of the layers of a film must leave the coextrusion die at the same time. (See D.I. 240 at 27; D.I. 298 (Oral Argument Transcript) at 18-19.) Under this definition, Pechiney concedes that the accused ClearShield film meets this claim limitation. (D.I. 240 at 26-27.) Thus, the issues of infringement and invalidity do not depend on the construction of any of the terms of claim 11 other than those that are construed here. (D.I. 204 at 6; D.I. 298 at 8.)

[*8]

A. "Oriented" and "Oriented Coextruded Film"

1. The Parties' Proposed Constructions

Cryovac asserts that the term "oriented" should be construed as a part of the term "oriented coextruded film" to mean "a film formed by coextrusion that is then heated to its orientation temperature range and stretched to realign the molecular configuration, this stretching accomplished by a racking or blown bubble process." (D.I. 203 at 11.) Cryovac contends that this construction is supported by the definition given for the term "oriented" in the specification, and that broader constructions were disclaimed during prosecution. (*Id.* at 11-16.) Pechiney, on the other hand, claims that the term "oriented" should be construed to mean "a polymeric material which has been heated and stretched to realign the molecular configuration." (D.I. 204 at 20.) Pechiney asserts that the language "this stretching accomplished by a racking or blown bubble process" should not be included in the construction of the term oriented, as this language would improperly import a product-by-process limitation into the claim. (*Id.* at 21-22.) Pechiney further argues that the term "oriented coextruded film" should

[*9] simply be a combination of the definitions of "oriented" and "coextruded", not a separate claim term, and should be defined to mean "an oriented film formed by coextrusion." (D.I. 204 at 20.)

2. The Court's Construction

The specification of the '419 patent states that "the term 'oriented' and the like is used herein to define a polymeric material which has been heated and stretched to realign the molecular configuration, this stretching accomplished by a

racking or blown bubble process." U.S. Patent No. 4,755,419 at col. 3, Ins. 45-49. The parties agree that where a patent applicant provides "an explicit definition in the specification for a claim term[,] ... the definition selected by the patent applicant controls." *Renishaw PLC*, 158 F.3d at 1249.

The dispute between the parties over the construction of the term "oriented" centers on whether the phrase "this stretching accomplished by a racking or blown bubble process" should be included in the construction of the term. (See D.I. 204 at 21.) While Pechiney asserts that the inclusion of this phrase improperly imports a product-by-process limitation into the claim (*id.*), Cryovac argues that this final phrase [*10] is part of the definition intended by the patentee, and that to define the term differently is inconsistent with the specification of the patent (D.I. 203 at 16-18).

Phillips teaches that claim construction is a practical exercise, in which a claim term is defined to reflect what one of ordinary skill in the art reading the patent would understand. 415 F.3d at 1324 ("There is no magic formula or catechism for conducting claim construction. Nor is the court barred from considering any particular sources or required to analyze sources in any specific sequence..."). However, as earlier noted, the language of the specification "usually ... is dispositive; it is the single best guide to the meaning of a disputed term." *Id.* at 1315 (quoting *Vitronics*, 90 F.3d at 1582).

Federal Circuit precedent, is seemingly in conflict regarding whether a product-by-process claim is limited by the process disclosed in the claim. In *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, (Fed. Cir. 1991), the court stated that "the correct reading of product-by-process claims is that they are not limited to product prepared

[*11] by the process set forth in the claims." *Scripps Clinic & Research Found.*, 927 F.2d at 1583. However, just over one year later, the Federal Circuit relied on "a line of [Supreme Court] cases that [stated] the infringement inquiry for product claims with process limitations focuses on whether the accused product was made by the claimed process or its equivalent." *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 842 (Fed. Cir. 1992). Thus, the court in *Atlantic Thermoplastics* held that "process terms in product-by-process claims serve as limitations in determining infringement." *Id.* at 846-47. In light of the decisions in *Scripps*, *Atlantic Thermoplastics*, and the Supreme Court cases cited by the Federal Circuit in *Atlantic Thermoplastics*, n2 it appears that the determination of whether the process is properly viewed as a limitation is a context-specific inquiry. n3 Thus, in keeping with the en banc decision of the Federal Circuit in *Phillips*, each claim, whether it contains a product-by-process limitation or not, must be construed in light of the specification.

n2 Those cases include, inter alia, *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486 (1877) and *Cochrane v. Badische Anilin & Soda Fabrik*, 111 U.S. 293 (1884).
[*12]

n3 Indeed, in the Federal Circuit's most recent statement on this issue, *Smithkline Beecham Corp. v. Apotex Corp.*, F.3d ___, 2006 WL 435838 (Fed. Cir. Feb. 24, 2006), although the majority stated that it "need not address this controversy here" (*id.* at *4), Judge Newman filed a dissenting opinion which clearly sets out the debate between *Scripps* and *Atlantic Thermoplastics*. *Id.* at *8-11. In her dissent, Judge Newman stated that the rule emphasized in *Phillips*, that "claims are construed in light of the specification ... is not suspended when product and process limitations appear in the same claim." *Smithkline Beecham Corp.*, 2006 WL at *9. Judge Newman goes on to state that *Scripps* and *Atlantic Thermoplastics* are "not in conflict; they simply deal with different situations." *Id.* at *10.

Here, the patentee specifically defined the term "oriented" in the specification to include the language "accomplished by a racking or blown bubble process." U.S. Patent No. 4,755,419 at col. 3, Ins. 48-49. Additionally, the examples provided by

[*13] the patentee in the specification strongly suggest that this limitation was intended to be a part of the claim. See *id.* at col. 4, Ins. 52-55 (stating that the film was "produced by ... cast coextrusion methods, and subsequently oriented ... typically by means of a blown bubble process"); *id.* at col. 8, Ins. 60-64 ("the coextruded and cooled tube is heated to its orientation temperature range to orient the film in e.g. a blown bubble process"). Under the guidance given by *Phillips*,

the language in the specification of the '419 patent "is the single best guide" to the meaning of the term oriented. *Phillips*, 415 F.3d at 1315. Under Federal Circuit and Supreme Court case law, this is not changed simply because the definition given by the patentee contains a limitation that describes a process. Thus, I will use the definition given by the patentee in the specification, and will construe the term "oriented" to mean, with reference to a polymeric material, "heated and stretched to realign the molecular configuration, this stretching accomplished by a racking or blown bubble process." n4

n4 Cryovac asserts that I should construe the phrase "oriented coextruded film" rather than just "oriented." (D.I. 203 at 11-16.) However, the construction of this phrase is simply a combination of the construction of "oriented" given here, and the meaning of "coextruded," on which the parties fundamentally agree (*see supra* note 1). Thus, the term "oriented coextruded film" needs no further definition here.

[*14]

B. "Arranged Symmetrically" and "At Least Seven Layers Arranged Symmetrically"

1. The Parties' Proposed Constructions

Cryovac argues that the claim term "arranged symmetrically" should be construed as part of the phrase "at least seven layers arranged symmetrically" to mean:

at least the seven layers recited in subparagraphs (a), (b), (c) and (d) of claim 11 arranged such that one layer (b), one layer (c) and one layer (d) are in the same order on each of the opposite sides of the core layer (a), for example c/d/b/a/b/d/c. This claim phrase limits the arrangement of the layers. It does not limit the thickness of the layers. Nor does it limit the amounts of recited components or additives that may be included in the layers.

(D.I. 203 at 24.) In support of their proposed construction, Cryovac argues that the context, grammar, specification, and prosecution history of claim 11 show that only the arrangement of the layers must be symmetrical and that there is no limitation requiring symmetry in the thickness or chemical composition of the layers. (D.I. 203 at 25.) Specifically, Cryovac contends that "symmetrically" modifies "arranged", which shows only that the layers [*15] must be in symmetric order, not that "the layers are themselves symmetric." (*Id.*) Additionally, Cryovac argues that the specification of the '419 patent, which has language referring to the thickness of "each" layer, shows that the thickness of the layers can vary individually. (*Id.* at 27.) Cryovac also asserts that Pechiney's proposed construction would exclude preferred embodiments (*id.* at 28), and that the prosecution history does not support the additional limitations Pechiney attempts to read into the claim (*id.* at 30).

Pechiney, on the other hand, argues that absolute symmetry is required in the thickness of the layers and their chemical composition. Pechiney asserts that the intrinsic evidence in the patent and the ordinary meaning of the terms support its reading of the claim. (D.I. 204 at 7-8.) Pechiney proposes that "arranged symmetrically" should be construed to mean:

Putting the layers in a desired symmetrical order when the film is viewed in cross-section, that is, putting the layers in an order so that the geometrical center line of the core layer is in the geometrical center line of the film and there is correspondence in the size (thickness)

[*16] and composition of layers being mirror images of each other with the same thickness and the same chemical composition.

(D.I. 204 at 7.) Pechiney contends that its construction is consistent with the specification of the '419 patent, as the specification discusses a "symmetrical seven layer structure," but never defines the term "arranged symmetrically," and gives no example in which corresponding layers had different thicknesses. (*Id.* at 10-13.) Pechiney further argues that because during prosecution Cryovac distinguished claim 11 of the '419 patent from a prior art film that was "asymmetric", that claim 11 only covers films that are symmetrical in arrangement, layer thickness, and layer composition. (*Id.* at 13-17.) Finally, Pechiney argues that in looking at the whole claim, Cryovac's construction renders the "arranged symmetrically" limitation superfluous. (*Id.* at 18-20.) Thus, the dispute between the parties hinges on whether the claim term "arranged symmetrically" refers simply to the order of the layers, as Cryovac asserts, or whether that term requires absolute geometrical symmetry, as Pechiney contends.

2. The Court's Construction

The plain language of

[*17] claim 11 and the prosecution history of the '419 patent support Cryovac's assertion that the term "arranged symmetrically" requires only symmetrical arrangement of the layers in the film, but not precise identity in the thickness or chemical composition of those layers. First, looking simply at the plain language and grammar of claim 11 of the '419 patent, what is claimed is a film "having at least seven layers arranged symmetrically." See U.S. Patent No. 4,755,419 at col. 9, Ins. 67-68. The word "symmetrically" modifies the word "arranged," and thus requires only that the layers should be symmetrical in their arrangement. Nothing about this language requires or even suggests that corresponding layers must be precisely identical in thickness or chemical composition, having geometric symmetry around a center line.

Furthermore, the prosecution history of the '419 patent favors this construction of the term "arranged symmetrically". To support its argument that there must be absolute symmetry in the thickness and chemical composition of the layers of the film, Pechiney attempts to rely on the fact that, during the prosecution of the '419 patent, Cryovac added the "arranged symmetrically"

[*18] claim limitation to overcome a prior art rejection. (D.I. 204 at 16.) Indeed, Cryovac added this limitation to overcome an obviousness rejection over U.S. Patent No. 4,284,674 to Sheptak ("Sheptak") in view of U.S. Patent No. 4,532,189 to Mueller ("Mueller"). (D.I. 249, Ex. 3 at CR056-000155.) Sheptak, however, disclosed an eight layer film, with five layers that were symmetrically arranged and an additional three layers added to one side of the five layer film, making the overall structure asymmetric. (D.I. 249, Ex. 6 (showing a film orientation of c/b/a/b/c/d/e/f).) Mueller disclosed three and five layer films that appear to have a symmetrical arrangement, although that symmetry is not explicitly claimed. (D.I. 216, Ex. 12.)

Cryovac argued during prosecution of the '419 patent that Sheptak disclosed an asymmetrical film and that, as a result, adding the outer layers of the film disclosed in Mueller would still give a structure that was asymmetrical. (D.I. 249, Ex. 3 at CR056-000155.) Cryovac asserted that the film disclosed in the '419 patent had, by contrast, "at least seven layers [that were] ... symmetrically arranged." (*Id.*) Cryovac claims that through this amendment it

[*19] was simply distinguishing the prior art by pointing out that the three additional layers added to the Sheptak film's symmetrical layers made that whole film asymmetrical in arrangement, and that such an arrangement would remain asymmetrical even with the addition of the outer layers from Mueller. (D.I. 248 at 29-31.) Nothing about this amendment shows, as Pechiney urges, that Cryovac was asserting with the addition of this limitation that its claimed film had perfect symmetry in thickness and chemical composition of the layers of the film. Accordingly, the prosecution history supports a construction of the term "arranged symmetrically" that does not require precise identity in the thickness and chemical composition of the layers.

Finally, Pechiney urges that if Cryovac's proposed construction is adopted, the "arranged symmetrically" limitation would be superfluous, as the body of the claim describing layers (a), (b), (c), and (d) teaches a film that is arranged symmetrically under Cryovac's definition. However, although the body of the claim does teach that layers (b), (c), and (d) must be put in a symmetrical order, nothing in the body of the claim prevents the addition of layers

[*20] on one side of the (a) layer. Therefore, without the limitation that the film must be "arranged symmetrically," an additional layer could be added on one side of the (a) layer, making the film have a structure of c/d/b/a/e/b/c/d. Thus, "arranged symmetrically" is not superfluous as I have construed it.

Having determined that precise identity in the thickness and chemical composition of the layers is not required by the term "arranged symmetrically," there still remains the question of just how much alike the corresponding layers must be. The claim language itself provides the answer to that question. Claim 11 of the '419 patent describes the composition of each of the layers of the film. ('419 patent at col. 10, Ins. 1-9.) For example, (b) layers must each comprise a polyamide, and (c) layers must each comprise a "polymeric material or blend of polymeric materials." (*Id.* at col. 10, Ins. 3-6.) Thus, the chemical composition of the layers of the film claimed in claim 11 of the '419 patent is limited only by the definitions of the layers themselves, as stated in the claim, and not by the claim term "arranged symmetrically."

Accordingly, I construe "arranged symmetrically" to mean

[*21] "putting the layers in a desired symmetrical order when the film is viewed in cross-section, so that the layers are in the same order on each side of the core of the film, for example c/d/b/a/b/d/c. This claim phrase limits only the arrangement of the layers, and does not require precise identity in the thickness of the layers or the amounts of recited components or additives that may be included in the layers." n5

n5 Cryovac has urged that I construe the phrase "at least seven layers arranged symmetrically" rather than simply "arranged symmetrically." Its proposed construction encompasses limitations set forth not only in that phrase, but also in other parts of the claim. Because the limitations that Cryovac attempts to import into the construction of "at least seven layers arranged symmetrically" are in other parts of the claim, I decline to import them into the construction of this term. Additionally, because the meaning of "at least seven layers" is clear, I have construed only the phrase "arranged symmetrically."

[*22]

V. CONCLUSION

For these reasons, the disputed claim terms will be construed as follows:

| Claim Term | The Court's Construction |
|--------------------------|--|
| "oriented" | The court construes "oriented" to mean, with reference to a polymeric material, "heated and stretched to realign the molecular configuration, this stretching accomplished by a racking or blown bubble process." |
| "arranged symmetrically" | The court construes "arranged symmetrically" to mean "putting the layers in a desired symmetrical order when the film is viewed in cross-section, so that the layers are in the same order on each side of the core of the film, for example c/d/b/a/b/d/c. This claim phrase limits only the arrangement of the layers, and does not require precise identity in the thickness of the layers or the amounts of recited components or additives that may be included in the layers." |

An appropriate order will issue.

ORDER

For the reasons set forth in the Opinion issued today, it is hereby ORDERED that the following disputed claim terms of U.S. Patent No. 4,755,419 (issued July 5, 1988) are construed as follows:

| Claim Term | The Court's Construction |
|------------|---|
| "oriented" | The court construes "oriented" to mean, with reference to a polymeric material, "heated and stretched to realign the molecular configuration, this stretching accomplished by a racking or blown bubble process." |

Claim Term

The Court's Construction

"arranged symmetrically"

The court construes "arranged symmetrically" to mean "putting the layers in a desired symmetrical order when the film is viewed in cross-section, so that the layers are in the same order on each side of the core of the film, for example c/d/b/a/b/d/c. This claim phrase limits only the arrangement of the layers, and does not require precise identity in the thickness of the layers or the amounts of recited components or additives that may be included in the layers."

[*23]

Kent A. Jordan

UNITED STATES DISTRICT JUDGE

April 13, 2006
Wilmington, Delaware

